

Memory Recorder

QT-03-0788

The Memory Recorder

The heart of the Synclavier Digital Audio System is the Memory Recorder. Combining the functions of a tape recorder and a sound mixer, it is a complete sound studio for recording, editing and producing music.

Several recorded sequences have been prepared for you at New England Digital.

Using the terminal to recall a recorded sequence

You can recall any sequence to the Memory Recorder by using the Sequence Directory on the terminal screen.

1. From the Welcome Menu, move the cursor to the Sequence Directory and press Return, or just type

c

The Sequence Directory appears on the screen. Unlike the Timbre Directory, the Sequence Directory shows a list of sequences arranged in rows. The first eight sequences are numbered; the others are named. A numbered sequence can be a newly created sequence, a temporary version of a modified sequence or a duplicate of a named sequence.

2. Use the arrow keys to move the cursor to the sequence named

relative

3. Press Return.

The display window of the Synclavier keyboard shows a series of messages, each beginning with

LOADING SOUND FILE

The computer is copying all the samples used in the sequence from the Winchester into poly memory. When all the sound files have been loaded, the display window shows how many notes are left in the Memory Recorder. The number depends on the amount of memory in your system and the size of the sequence.

The copy of the sequence in the Memory Recorder is called the **current sequence**. It is ready to play back.

SEQUENCE DIRECTORY

1. Use arrows to move cursor. Press <RETURN> to recall sequence.

2. Press <ENTER> when done with this screen.

3. Select devices with 1, 2, 3, ...

4. Devices → 1 W0: 2 F0: 3 W1:

<SEQ #1> <SEQ #2> <SEQ #3> <SEQ #4> <SEQ #5> <SEQ #6> <SEQ #7> <SEQ #8>

12STRING BACH-JOY BIGBAND BONELOOP COMPARSA FUNK JSBFUGUE NANINGO

RELATIVE TINTAL

Current Catalog: W0:

The Memory Recorder (con't)

Playing back a sequence

You play back the sequence in the Memory Recorder by using the buttons in the second panel of the keyboard control panel.

1. Press the button labeled

START

You hear four count-off clicks, and then the current sequence begins to play.

2. Press the button next to the START button, labeled

STOP

The sequence stops.

3. Press START again, this time hitting it twice.

The sequence begins to play without the four count-off beats. Notice that the replay begins without any rewind time.

4. Press STOP again and then press

CONTINUE

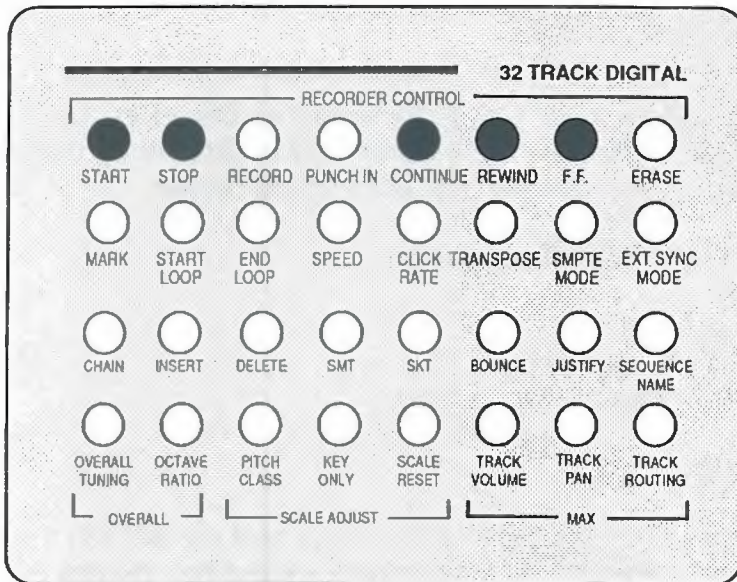
The sequence begins to play from the point where you stopped it.

5. Press

F.F.

The sequence moves forward quickly until you press STOP. Notice that the sound is audible but muted.

Memory Recorder playback buttons



- Press START once to play back from the first beat.
- Press START twice to play back from the first note.
- Press STOP to stop the sequence.
- Press CONTINUE to play back from the most recent stopping point.
- Press F.F. to move forward quickly.
- Press REWIND to move backward quickly.

The Memory Recorder (con't)

Using the keyboard control panel to recall a numbered sequence

As an alternative to using the Sequence Directory, you can recall one of the eight numbered sequences by using the fourth panel of the keyboard control panel.

1. Press the button labeled

SEQUENCE

2. Press the button labeled

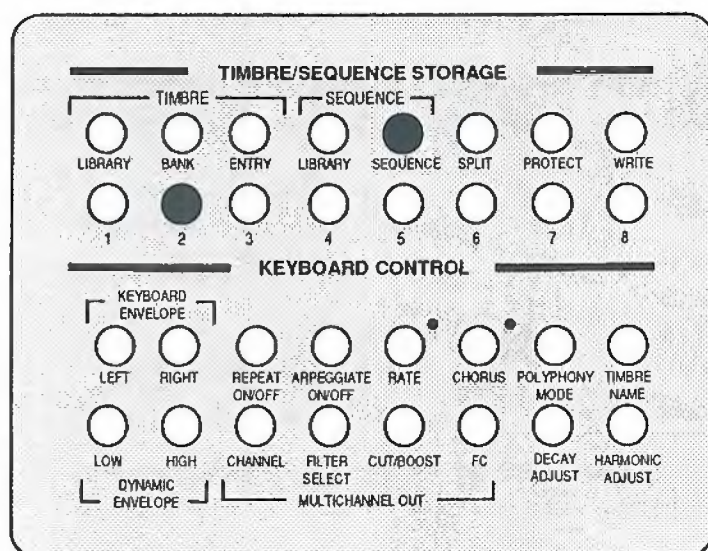
2

LOADING SOUND FILE messages and the NOTES LEFT message appear in the display window. A copy of the sequence stored as <SEQ #2> is placed in the Memory Recorder. It replaces the previous current sequence.

Note: Unlike the cursor in the Timbre Directory, the cursor in the Sequence Directory does not move to the selected sequence.

3. Play back the sequence, as described on the previous pages.

In your setup system, the eight numbered sequences are duplicates of some of the named sequences. The chart on the opposite page shows each numbered sequence with its corresponding name. Later, you may want to change the contents of the numbered sequences, and keep the named sequences as backup copies.



Sequence recall buttons

- Press SEQUENCE.
- Press a numbered button on panel 4.

Sequence name	Sequence number	Storage button
Relative	<SEQ #1>	Button 1
Boneloop	<SEQ #2>	Button 2
Bigband	<SEQ #3>	Button 3
JSB Fugue	<SEQ #4>	Button 4
Tintal	<SEQ #5>	Button 5
Comparsa	<SEQ #6>	Button 6
Funk	<SEQ #7>	Button 7
Naningo	<SEQ #8>	Button 8

Sequence names, numbers and storage buttons

The Memory Recorder (con't)

Changing the tempo of a recording

You can alter the tempo of a sequence. You can slow it to a standstill or speed it up to ten times its original speed.

1. Press the button in the second panel labeled

SPEED

The display window shows

1.000 SPEED

to indicate that the speed is set at the original recorded tempo.

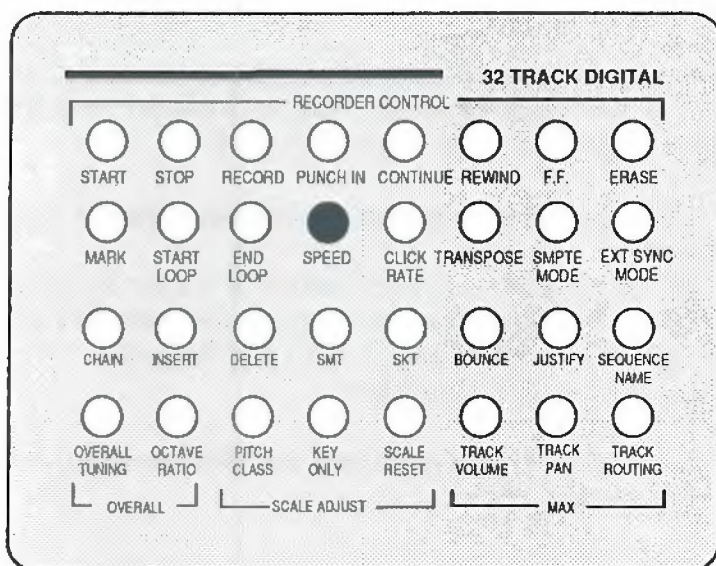
3. Press

START

4. At the far left of the button panel is a control knob. Turn it to the right; the number in the display window becomes larger. Turn it to the left; the number becomes smaller.

The tempo changes as the sequence plays. Notice that the pitch of the recorded sounds does not change at all. With the Synclavier, you can change the speed of any recording without changing the pitch.

5. When you have finished changing the speed, press SPEED again to return the speed setting to 1.000.
6. Press STOP.



The SPEED button

To adjust the speed of a recorded sequence:

- Press SPEED.
- Turn the control knob.

The speed setting remains in effect until you change it again, even if you recall another sequence.

To return the speed setting to 1.000:

- Press SPEED again and check the display window.

The Memory Recorder (con't)

Looking at the transcription of the recording

You can look at the notes of any sequence on the terminal screen in standard notation. You can look at the notes on a single track or several tracks at a time.

1. Press ENTER to return to the Welcome Menu.
2. Recall <SEQ #4> to the Memory Recorder by using either the Sequence Directory or the buttons on the keyboard control panel. This sequence is a recording of a Bach fugue.
3. Select the Main Menu from the Welcome Menu by pressing

f

The Main Menu is similar to the Welcome Menu except that you can use it to access more displays. Notice that all the displays listed on the Welcome Menu are also listed on the Main Menu. You will not have to go back to the Welcome Menu again.

4. Select the Music Notation Display from the Main Menu.

When the Music Notation Display appears, the first track of the current sequence is displayed in standard notation, in this case, two whole rests.

Main Menu	
Directories	Memory Recorder
A. Timbre Directory	S. Sequence Editor
B. Sound File Directory	G. Recorder Display
C. Sequence Directory	H. Multichannel Display
D. Subcatalog Directory	J. Midi Display
M. Missing Sound File Display	K. Music Notation Display
Sound Design	Direct-to-Disk
L. Sound File Editor	O. Project Directory
F. FM Timbre Display	P. Track Display
I. Patch Display	Q. Audio Event Editor
N. Name Keyboard Timbre	System Controls
Sound Archival	E. Extra System Commands
R. Optical Disk Storage	<PF1> Reverse Compiler
	<PF3> Music Printing
	<PF4> SFM
	<BREAK> Monitor

Release O

Current Timbre: RHODES
Current Catalog: W0:

The Main Menu

MUSIC NOTATION DISPLAY	
Use arrow keys to move cursor around menus and music. Type in values or toggle values with <SPACE>. Move between menus and music with <TAB>. Operate the memory recorder with: <CTRL-P> start, <CTRL-R> rewind, <CTRL-C> continue, <CTRL-E> stop, <CTRL-F> F.F., Print screen with <H> <CTRL-D> record, <CTRL-V> punch.	
Staves: 1 Measures: 3	Measure #: 1 StrClick: 1
TimSig: 4/4 Click: 1/4	Pitch: C3 Duration: 1/4
Trk 1 Key: C# Res 16	

The Music Notation Display

The Memory Recorder (con't)

Setting the Music Notation menu

Before you can view a sequence properly, you have to set a few of the items on the menu.

1. Look at the middle of the display. Inside the horizontal oblong box is the word **Staves**, followed by a box around the number **1**. The box is the **menu cursor**.

2. Type the number

3

The number inside the menu cursor changes to 3.

3. Press Return.

All three tracks of the current sequence are shown on the screen, but notice that all the clefs are treble clefs.

4. Use the down arrow key to move the cursor to the **Clf** item located to the left of the bottom staff.

5. Type

f

6. Press Return.

The third clef changes to a bass clef.

The Music Notation Display

MUSIC NOTATION DISPLAY

Use arrow keys to move cursor around menus and music.

Type in values or toggle values with <SPACE>.

Move between menus and music with <TAB>.

Operate the memory recorder with:

<CTRL-P> start, <CTRL-R> rewind, <CTRL-C> continue,
 <CTRL-E> stop, <CTRL-F> F.F. Print screen with <H>
 <CTRL-D> record, <CTRL-V> punch.

Staves: 3 Measure #: 1 TimSig: 4/4 Pitch: C3
 Measures: 3 SrtClick: 1 Click: 1/4 Duration: 1/4

Trk 1
Key C-#
C# G
Res 16

Trk 1
Key C-#
C# G
Res 16

Trk 1
Key C-#
C# F
Res 16

☐

VIBES 43

The Memory Recorder (con't)

Following the transcription as it plays

You can look at the notes of the sequence while the sequence is playing. You can stop the sequence at any point and freeze the display.

1. Press the START button on the keyboard control panel.

The **song pointer** (the vertical dotted line) moves across the screen, marking each note as the sequence plays.

2. Press the STOP button.

The display freezes with the song pointer on the note that was sounding when you stopped the sequence.

You can use the Music Notation Display to view up to eight tracks at a time. You can make any kind of editing changes you want directly on the terminal screen. As soon as you make a change on the Music Notation Display, the sequence in the Memory Recorder is also changed.

Instructions for using the Music Notation Display are in the *Sequence Editing* and *Memory Recorder* manuals.

When you have finished looking at the Music Notation Display, press ENTER to return to the Main Menu.

MUSIC NOTATION DISPLAY

Use arrow keys to move cursor around menus and music.

Type in values or toggle values with <SPACE>.

Move between menus and music with <TAB>.

Operate the memory recorder with:

<CTRL-P> start, <CTRL-R> rewind, <CTRL-C> continue,

<CTRL-E> stop, <CTRL-F> F.F. Print screen with <H>

<CTRL-D> record, <CTRL-V> punch.

Staves: 3 Measure #: 1 TimSig: 4/4 Pitch: C3
Measures: 3 SrvClick: 1 Click: 1/4 Duration: 1/4

Trk 1:
Key C#
Clf G
Res 16

Trk 1:
Key C#
Clf G
Res 15

Trk 1:
Key C#
Clf F
Res 16



The Music Notation Display

The Memory Recorder (con't)

Making a multitrack recording

You can record a complete multitrack recording in the Memory Recorder.

1. Select the Timbre Directory from the Main Menu to locate a suitable timbre for recording.
2. Select one of the three drum sets for the first track, the percussion track.

live drums
electric kit
drum machine

The picture on the opposite page shows which percussion sounds are accessed from which keys on the keyboard.

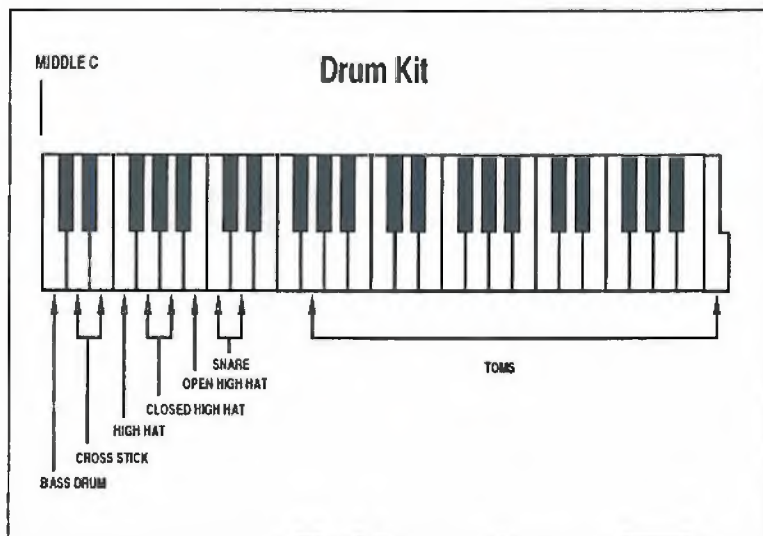
3. Before recording, you need to erase the current sequence in the Memory Recorder. Press twice the button labeled

ERASE

The Bach fugue is erased from the Memory Recorder, but is still stored on your Winchester disk. You can recall it at any time by using the Sequence Directory or the buttons on the keyboard control panel.

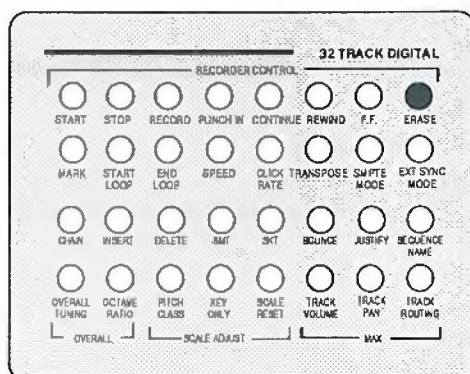
The display window shows how many notes are left in the Memory Recorder. This number depends on how much memory you have in your system.

Drum kit



- Select one of the drum kit timbres for recording the first track.

- Press ERASE twice to clear the Memory Recorder.



ERASE button

The Memory Recorder (con't)

Getting ready to record

1. Press the button labeled

SPEED

The display window shows the speed setting for the Bach fugue, the most recent sequence in the Memory Recorder.

2. Press SPEED again to change the speed setting back to 1.000.
3. Press the button labeled

START

and listen to the clicks of the digital metronome. The click rate is set to the tempo of the Bach piece.

Note: You may need to adjust the volume of the mixing board channel that carries the click.

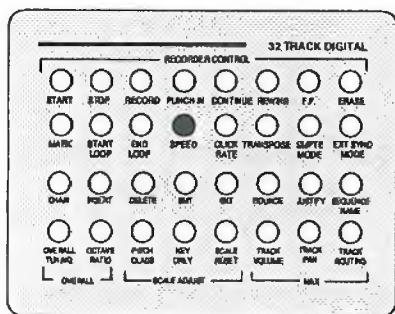
4. If you want to record at a different tempo, press

CLICK RATE

and turn the control knob to set a new click rate.

5. Press STOP.

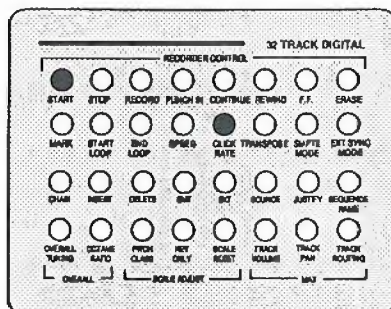
The CLICK RATE button remains lighted.



- Press SPEED.
- If the speed setting in the display window is not 1.000, press SPEED again to reset it to 1.000.

Setting the click rate

- Press START to listen to the click rate.
- Press CLICK RATE.



- Dial in a new click rate.

The Memory Recorder (con't)

Recording the first track

1. Press RECORD.

The START button lights and the first TRACK SELECT button blinks to indicate that track 1 is **selected** (ready to record).

2. Listen to at least four clicks, and then play the notes of the first track.
3. When you have finished a short percussion track, press STOP.

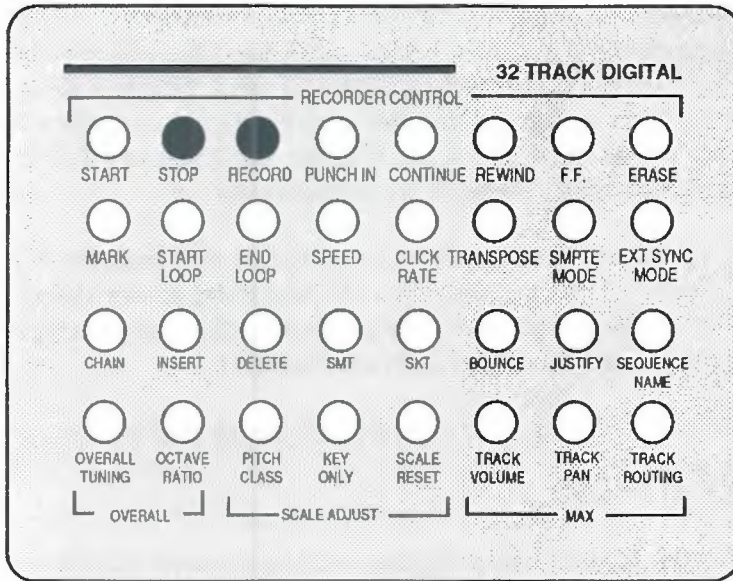
The first track is in the Memory Recorder.

If you make any mistakes while recording, you can erase the entire track and re-record it.

1. Press the ERASE button twice to erase all the notes in the Memory Recorder.
2. Press RECORD.
3. Listen to the warm-up clicks, and then start playing.

When you are satisfied with track 1, you are ready to record track 2.

Recording a track



- Press RECORD to record.
- Press STOP to stop.

The Memory Recorder (con't)

Overdubbing additional tracks

You can record a second track with the same timbre as the first, or choose a new timbre. If you choose a new timbre, the Memory Recorder automatically selects a new track. If you keep the same timbre, the Memory Recorder records the new notes on the same track.

1. From the Timbre Directory, recall any bass timbre for track 2, the bass line. If you have fewer than four megabytes of poly memory, choose a timbre that is followed by a small number.

2. Turn to the keyboard control panel and press

RECORD

The START button lights and the second TRACK SELECT button blinks.

3. Listen to eight clicks before you begin to play. As you record the notes on track 2, you will hear the notes of the track 1 playing.
4. When you have finished recording the bass track, press STOP.

The second track is in the Memory Recorder.

5. Return to the Timbre Directory. Recall any timbre for track 3, the melody line.
6. Record track 3. Remember to let the warm-up clicks occur before you start to play. You will hear track 1 and track 2 while you record track 3.

Erasing and re-recording a single track

If you make a mistake, you can erase the notes on one track without disturbing the notes on other tracks. For example, you can erase the notes that are only on track 2.

1. Press the TRACK SELECT button labeled

2

The button blinks to indicate that track 2 is selected.

2. Press ERASE twice to erase all the notes on track 2.

The notes on all other tracks remain untouched.

You can re-record the track you just erased.

1. While the second TRACK SELECT button blinks, recall a timbre for track 2. You can recall either the bass timbre that was originally used for track 2 or some other timbre.
2. Press RECORD.

The START button lights and the second TRACK SELECT button continues to blink.

3. When you have finished recording, press STOP.
4. Press the second TRACK SELECT button again.

It stops blinking to indicate that track 2 is not selected.

The Memory Recorder (con't)

Listening to one or several tracks

As an alternative to playing back the entire sequence, you can choose to listen to specified tracks.

1. Press the TRACK SELECT button(s) corresponding to the track(s) you want to hear.

The button you press last will blink to indicate the selected track. The buttons you press first will be lit to indicate the soloed tracks.

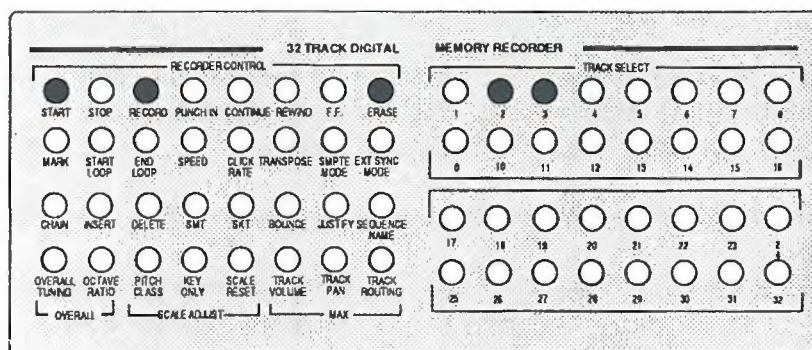
2. Press START.

Only the notes on the selected and soloed tracks play.

3. Press the TRACK SELECT button(s) again.

The unlit buttons indicate that the tracks are neither selected nor soloed.

Note: A blinking TRACK SELECT button indicates a selected track (ready to be heard, recorded, edited or erased). A lit TRACK SELECT button indicates a soloed track (ready to be heard). You can select only one track at a time. However, you can solo more than one track simultaneously.



Selecting and soloing tracks

- Press a numbered TRACK SELECT button to select a track.
- Press another TRACK SELECT button to select another track and solo the original track.
- Press START to listen to the selected and soloed tracks.
- Press ERASE twice to erase only the selected track.
- Press RECORD to record on only the selected track.
- Press the TRACK SELECT buttons again to unselect or unsolo the tracks.

The Memory Recorder (con't)

Changing a timbre on a track

After you have recorded a track, you may decide that you don't like the timbre. Instead of re-recording the track, you can simply change the timbre.

1. Recall another timbre to the keyboard.
2. Turn to the second panel of the keyboard control panel, and press the SELECT MEMORY TIMBRE button. It is labeled

SMT

It lights. All the TRACK SELECT buttons in the third panel blink, indicating that you need to specify the track on which to make the timbre change.

3. Press the TRACK SELECT button labeled 3.

The SKT button and the numbered buttons on panel 4 blink. The TRACK SELECT buttons continue to blink.

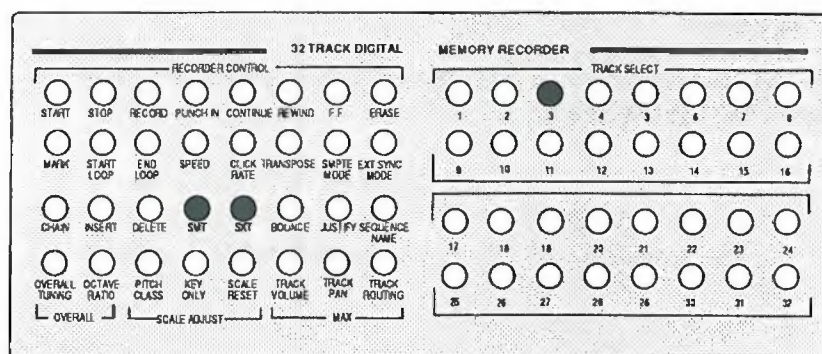
4. Press the SELECT KEYBOARD TIMBRE button in the second panel. The button is labeled

SKT

All the buttons stop blinking.

5. Press START.

Your sequence with the new timbre plays on track 3.



Changing a track timbre

- Recall the desired timbre to the keyboard.
- Press SMT.
- Press the numbered TRACK SELECT button that corresponds to the track on which to make the timbre change.
- Press SKT.

The Memory Recorder (con't)

Adding notes to a recorded track

You can add notes to a recorded track, provided that you use the same timbre.

1. Press the first TRACK SELECT (TRACK 1) button.

The button blinks to indicate that track 1 is selected.

2. Press RECORD.

Instead of hearing the clicks of the digital metronome, you see a message in the display window.

TIMBRES MUST
MATCH FOR RECORD

This means that the keyboard timbre is not the same as the track timbre.

3. Press the button in the second panel labeled

SKT

All the TRACK SELECT buttons blink.

4. Press the TRACK 1 button again.

The timbre from track 1 is recalled to the keyboard.

5. Press RECORD and begin to play.

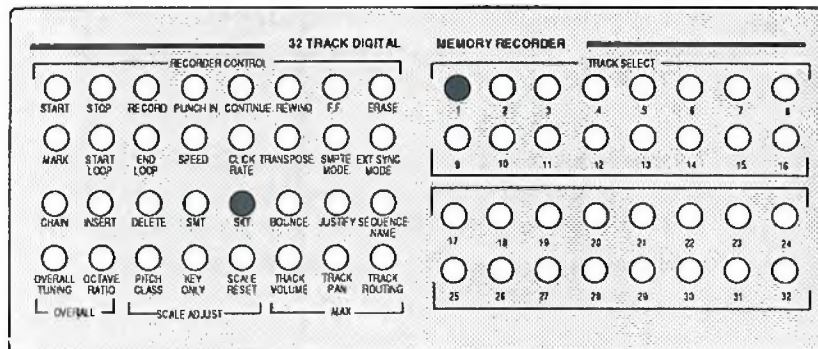
The notes you play are added to the notes already on track 1.

When the display window shows



- Press SKT.
- Press the numbered TRACK SELECT button.
- Press RECORD and record your track.

*Placing the
keyboard timbre
on a track*



The Memory Recorder (con't)

Looking at your sequence as a notelist

You have looked at your sequence in standard notation using the Music Notation Display. You can also display your sequence as a **notelist** using the Recorder Display.

1. On the keyboard control panel, press START to bring your sequence back to its starting note, and quickly press STOP.
2. At the terminal, press Enter to return to the Main Menu.
3. Select the Recorder Display from the Main Menu.

The Recorder Display shows the current sequence as a notelist. Only track 1 is displayed at first.

Each note has three entries which define the note and its place in the sequence. The first line in the notelist represents the first note.

- The first entry is the starting time of the note. Starting time is measured from the moment you pressed RECORD (time zero) to the moment you played the note.
- The second entry is the pitch name, indicated by a standard pitch letter, followed by an accidental, if any, and the octave number. All accidentals are represented by sharps. The octave numbers are relative to middle C (C3).
- The third entry is the duration of the note in seconds.

Recorder Display

MEMORY RECORDER COMPARATIVE TRACK DISPLAY			
<div>1. Enter track numbers from top-most row to display desired tracks. 2. Press <DELETE> from top-most row to remove track from display. 3. Move cursor with arrow keys, and enter values to change notes. 4. Use <TAB> key to view/change mode selections. 5. Press H to Print Screen. Press <ENTER> to return to Main Menu.</div>			
Track 1 "GUITAR G1-C5 1.1"		No Track Displayed	No Track Displayed
Seconds	Duration		
26.000	A3 1.000		
27.000	G3 1.000		
27.000	D3 1.000		
27.000	D3 1.000		
27.000	B2 1.000		
* 27.000	G1 1.000		
Current Catalog: W0:			

The Memory Recorder (con't)

Editing notes at the terminal

1. At the terminal, use the arrow keys to move the cursor up and over to the center column heading

No track displayed

2. Type

2

3. Press Return.

"No track displayed" is replaced by the name of the timbre recorded on track 2. The notes of track 2 appear below it.

4. Move the cursor down to the first note of track 2.
5. Move the cursor across to the pitch name.
6. Type both a letter and an octave number to define a new pitch. Remember, the lowest C on the keyboard is C1.
7. Make other modifications as you desire.

Recorder Display

MEMORY RECORDER COMPARATIVE TRACK DISPLAY

1. Enter track numbers from top-most row to display desired tracks.
2. Press <DELETE> from top-most row to remove track from display.
3. Move cursor with arrow keys, and enter values to change notes.
4. Use <TAB> key to view/change mode selections.
5. Press H to Print Screen. Press <ENTER> to return to Main Menu.

Track 1 "GUITAR G1-C5 1.1"			Track 2 "VIBES .43"			Track 3 "PHASED SBAS .37"		
Seconds	Duration		Seconds	Duration		Seconds	Duration	
26.000	A3	1.000				26.000	D2	1.000
27.000	G3	1.000				* 27.000	G1	0.995
27.000	D3	1.000						
27.000	D3	1.000						
27.000	B2	1.000						
* 27.000	G1	1.000	27.335	G3	0.080			
			27.670	A3	0.070			
			28.000	B3	0.105			
			28.335	D4	0.095	28.000	D3	0.660

Current Catalog: W0:

The Memory Recorder (con't)

Playing the edited sequence

The changes you made at the terminal have altered the notes in the current sequence of the Memory Recorder. You can hear the changes when the sequence plays.

- On the keyboard control panel, press

START

The edited sequence begins to play.

Complete instructions for using the Recorder Display are in the *Sequence Editing* and *Memory Recorder* manuals.

When you have finished, press Enter to return to the Main Menu.

Recorder Display

MEMORY RECORDER COMPARATIVE TRACK DISPLAY									
1. Enter track numbers from top-most row to display desired tracks. 2. Press <DELETE> from top-most row to remove track from display. 3. Move cursor with arrow keys, and enter values to change notes. 4. Use <TAB> key to view/change mode selections. 5. Press H to Print Screen. Press <ENTER> to return to Main Menu.									
Track 1 "GUITAR G1-C5 1.1"			Track 2 "VIBES .43"			Track 3 "PHASED SBAS .37"			
Seconds	Duration		Seconds	Duration		Seconds	Duration		
26.000	A3	1.000				26.000	D2	1.000	
27.000	G3	1.000				* 27.000	G1	0.995	
27.000	D3	1.000							
27.000	D3	1.000							
27.000	B2	1.000							
* 27.000	G1	1.000							
			27.335	G3	0.080				
			27.670	A3	0.070				
			28.000	B3	0.105				
			28.335	D4	0.095	28.000	D3	0.660	
Current Catalog: W0:									

The Memory Recorder (con't)

Saving your recording

All the recording and editing you have done so far is in computer memory. The notes will vanish if you recall another sequence or turn off the Synclavier.

You can save any sequence on your Winchester by using the buttons in the fourth panel of the keyboard control panel. The sequence is stored in a numbered **sequence file** that matches the button you select. Any sequence previously stored in that numbered sequence file is erased.

1. Press and hold the WRITE button.

The display window shows

PRESS ENTRY,
BANK OR SEQUENCE

2. While holding the WRITE button, press SEQUENCE.

The display window shows

PRESS "1-8" TO
STORE SEQUENCE

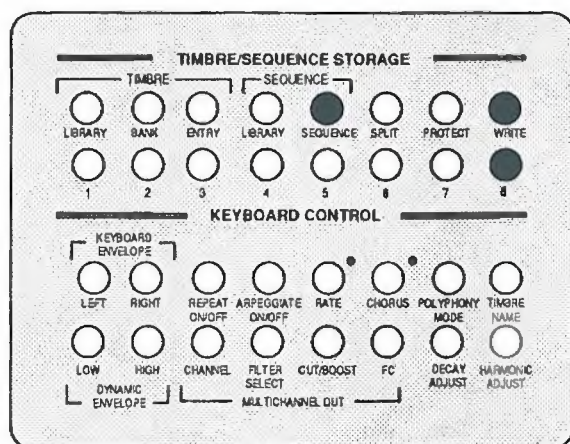
3. Continue to hold the WRITE button while you press

8

The current sequence is stored on your Winchester as <SEQ #8>. The display window shows

[number] SECTORS
WRITTEN TO DISK

Sequence storage buttons



To store a sequence on your Winchester disk:

- Press and hold WRITE.
- Press SEQUENCE.
- Continue to hold WRITE.
- Press a numbered button on panel 4.

Any sequence previously stored in that numbered sequence file is erased.